

(19) World Intellectual Property Organization  
International Bureau



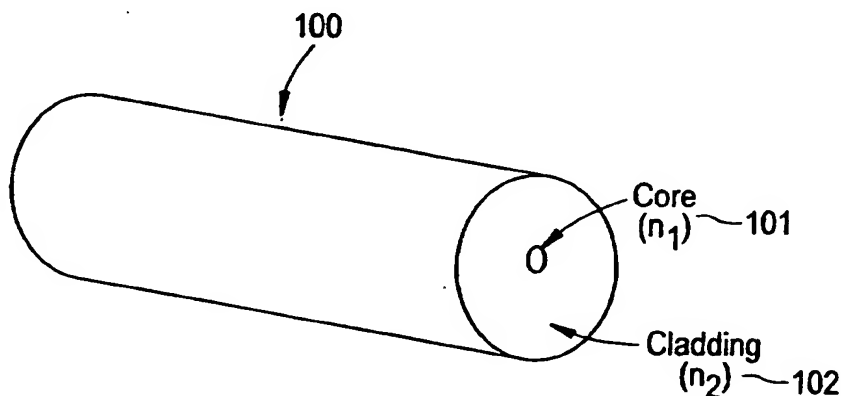
(43) International Publication Date  
19 April 2001 (19.04.2001)

PCT

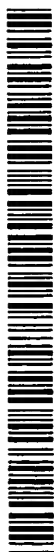
(10) International Publication Number  
**WO 01/27667 A2**

- (51) International Patent Classification<sup>7</sup>: G02B 6/00
- (21) International Application Number: PCT/US00/25362
- (22) International Filing Date:  
15 September 2000 (15.09.2000)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/159,075 12 October 1999 (12.10.1999) US
- (71) Applicant: CORNING INCORPORATED [US/US]; 1 Riverfront Plaza, Corning, NY 14831 (US).
- (72) Inventors: BHAGAVATULA, Venkata, A.; 29 Orchard Dr., Big Flats, NY 14814 (US). GIROUX, Cynthia, B.; 10760 Hidden Meadow Trail, Corning, NY 14830 (US). HAWTOF, Daniel, W.; Apt 128, 2910 Woodsedge Dr., Painted Post, NY 14870 (US).
- (74) Agent: CARLSON, Robert, L.; Corning Incorporated, SP TI 3 1, Corning, NY 14831 (US).
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).
- Published:  
— Without international search report and to be republished upon receipt of that report.
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HIGHER WAVELENGTH OPTIMIZED OPTICAL FIBER WAVEGUIDE



(57) Abstract: Single mode optical fiber waveguides are disclosed that offer a broader band for transmission over the wavelength range of about 1300 nm to about 1700 nm with reduced bending loss. The extended ranges of these fibers are achieved by altering the optical characteristics of the fiber, namely, the MAC number, the mode field diameter ("MFD"), and the cut-off wavelength. The single mode fibers disclosed exhibit a lower MFD and higher cut-off wavelength as a result of altering the MAC number of the optical fiber waveguide. In addition, optical fiber transmission systems, wave division multiplexing ("WDM") systems, and optical fiber ribbon cables are disclosed that incorporate the single mode optical fiber of the present invention.



WO 01/27667 A2